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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: Mark F. Jones, et. al.
Application Number: 09/430,792
Filed: October 30, 1999
For: Object Identification System Applications
Group Art Unit: 2724
Examiner: A. DO

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Technology Center 2600

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

APPEAL BRIEF

Applicant hereby appeals to the Board of Patent Appeals and Interferences from the decision of the examiner dated September 14, 2000, rejecting claims 2-21 in the above mentioned application.

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Applicant states that:

1. TRUE PARTY IN INTEREST

The name of the true party in interest is Mark F. Jones.

2. RELATED APPEALS OR INTERFERENCES

There are no related appeals or interferences that may affect this case.

3. THE STATUS OF THE CLAIMS OF THE APPLICATION

The status of the claims of the application is as follows:

Claims 1-21 are pending in the application.

A copy of claims 2-21, the claims on appeal, are found in appendix A.

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A copy of reformatted claim 4 is found in appendix B.

Claim 1 has been withdrawn from consideration.

Claim 2 stands rejected under the judicially created doctrine of double patenting over claims 1-13 of U.S. Patent No. 5,764,785 on the grounds that "the claims, if allowed, would improperly extend the 'right to exclude' already granted in the patent."

Claim 4 was objected to, in the Office Action dated September 14, 2000, for not complying with 37 CFR 1.75(I) "which requires 'where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation'." However, it is noted that in the Examiner's Advisory Action, dated March 12, 2001, one of the effects of the consideration of applicant's response filed on February 14, 2001 is that for purposes of appeal none of the claims is objected to.

Claims 4-12 stand rejected under 35 USC 102(b) as being anticipated by US Patent No. 5,272,518 issued to Vincent.

Claims 2 and 3 stand rejected under 35 USC 103(a) as being unpatentable over US Patent No. 5,272,518 issued to Vincent in view of US Patent No. 5,323,085 issued to Genz.

Claims 13-21 stand rejected under 35 USC 103(a) as being unpatentable over US Patent No. 5,272,518 issued to Vincent in view of US Patent No. 5,208,753 issued to Acuff.

4. STATUS OF RESPONSE TO FINAL REJECTION

In regard to the reply filed on February 14, 2001 in response to the Office Action dated September 14, 2000, the response has been considered with the effect that no claims are allowed, no claims are objected to, claims 2-21 are rejected and the application has not been placed in condition for allowance.

5. SUMMARY OF THE INVENTION

A summary of the invention as defined by the claims of appeal is as follows:

"The present invention uses near infrared wave lengths giving a high degree of reflection off the surfaces under observation. This provides a more accurate gray scale image with the advantage that the display reveals much more detail of the object under observation." (Page 5, lines 7-10).

"The imaging system comprises a light unit, imaging means, and transmission means." (Page 7, line 25).

"The imaging means of this invention can be used without the light unit." (Page 7, line 26 to Page 8, line 1).

"The imaging means comprises a lens and an electro-optic device which is sensitive to available visible light and infrared light. The imaging means may also comprise an optional light intensification means ... The imaging means may also comprise one or more infrared pass filters. The electro-optic imaging device translates the light received through the lens into a first electronic signal." (Page 8, lines 5-10).

"Light source 29 is preferably a non-coherent light source ... has a color rendition index (CRI) of more than about 90. Most preferably the color temperature of the light source is from about 2500 Kelvins to about 3500 Kelvins ..." (Page 13, lines 8-13).

"The light unit preferably projects light in the range of 660 to 1200 nanometers. For night vision applications the range is preferably from 780 to 1000 nanometers, more preferably from about 850 nanometers to about 900 nanometers." (Page 13, lines 20-23).

"For fault detection, the most preferred range is from 780 to 820 nanometers. Surface faults and surface abnormalities indicative of underlying

faults appear to be visualized best by the high reflectivity of infrared light near 800 nanometers." (Page 14, lines 4-6).

"For hidden mark detection, the desired wavelength of light emitted from the light unit is dependent upon the mark being detected." (Page 14, lines 7-8).

"The electro-optic imaging device generates electronic signals for the production of images of high resolution and definition. These electronic signals are then transmitted to, for example, a display or a transmitting antenna. As illustrated in figure 1, the electronic signal is transmitted through video cable 36 to display 39." (Page 17, lines 3-6).

"Video output electronic signals are transmitted through video cable 36." (Page 17, line 15).

"The preferred imaging means of this invention comprises a solid state CCD image sensor with at least 1.0 lux sensitivity and preferably at least 0.1 sensitivity and with the capability to support at least 400 (H) x 400 (V) pixels, and preferably at least 510 (H) x 492 (V) pixels ... with an aperture of at least F 4.0 and preferably at least F 1.4." (Page 21, lines 18-22).

6. ISSUES ON APPEAL

The issues on appeal include:

whether claim 2 as written constitutes an improper extension of the right to exclude as already granted in claims 1-13 of U.S. Patent No. 5,764,785;

whether claim 4 as written fails to comply with 37 CFR 1.75(I);

whether claims 4-12 are anticipated by US Patent No. 5,272,518;

whether claims 2 and 3 are obvious over US Patent No. 5,272,518 in view of US Patent No. 5,323,085;

whether claims 13-21 are obvious over US Patent No. 5,272,518 in view of US Patent No. 5,208,753.

7. GROUPING OF CLAIMS

Applicants submit that the grouping of claims should remain in accordance with the grounds of rejection.

Claims 2 and 3 should stand or fall together depending on the decision rendered in regard to the issue of whether claim 2 as written constitutes an improper extension of the right to exclude as already granted in claims 1-13 of U.S. Patent No. 5,764,785.

Claims 4-12 should stand or fall together depending on the decision rendered in regard to the issue of whether claims 4-12 are anticipated by US Patent No. 5,272,518.

Claims 2 and 3 should stand or fall together depending on the decision rendered in regard to the issue of whether claims 2 and 3 are obvious over US Patent No. 5,272,518 in view of US Patent No. 5,323,085.

Claims 13-21 should stand or fall together depending on the decision rendered in regard to the issue of whether claims 13-21 are obvious over US Patent No. 5,272,518 in view of US Patent No. 5,208,753.

8. ARGUMENTS FOR PATENTABILITY

Applicants submit that all the USC 102 and USC 103 rejections of the claims of the application rely on the Examiner's premise that the video signal disclosed by Vincent is implied to be the same as the "video signal for the production of images of said object" that is used in the independent claims of the application. Applicants submit it is clear from the application and that it is also clear from common usage of the meaning of the word "image" that the

image in the application looks like the object being imaged. The color spectrum "image" of Vincent does not look anything like the object itself.

Issue - whether claim 2 as written constitutes an improper extension of the right to exclude as already granted in claims 1-13 of U.S. Patent No. 5,764,785

In sections 2 and 3 of the office action dated September 14, 2000 and mailed September 21, 2000, the Examiner rejected claims 2 and 3 on the grounds of double patenting. In the February 14, 2001 reply to that office action the applicants submitted a terminal disclaimer along with the appropriate fee to overcome the Examiner's rejection of claims 2 and 3. Applicants therefore submit that the issue of whether claim 2 as written constitutes an improper extension of the right to exclude as already granted in claims 1-13 of U.S. Patent No. 5,764,785 should now be moot. However, as the Examiner's Advisory Action dated March 12, 2001 did not address this issue, Applicants request that the rejection of claims 2 and 3 of the application on the grounds of double patenting be determined moot by the Board.

Issue - whether claim 4 as written fails to comply with 37 CFR 1.75(I)

In sections 4 of the office action dated September 14, 2000 and mailed September 21, 2000, the Examiner objected to the format of claim 4. In the February 14, 2001 reply to that office action the applicants submitted a reformatted claim 4. Applicants therefore submit that the Examiner's objection to the formatting of claim 4 should be withdrawn. However, although the Examiner's Advisory Action dated March 12, 2001 noted that no claims remained objected to, the Examiner did not address this issue specifically. Therefore, applicants request that the Examiner's objection to the formatting of claim 4 be withdrawn by the Board.

Issue - whether claims 4-12 are anticipated by US Patent No. 5,272,518

In sections 5 and 6 of the office action dated September 14, 2000 and mailed September 21, 2000, the Examiner rejected claims 4-12 under 34 USC 102 as being anticipated by Vincent (US Patent No. 5,272,518).

Applicants have asserted and now reassert that unlike Vincent, which is specifically interested in the color of an object or part of an object, the applicant's invention is not concerned with color. Furthermore, applicants have asserted and now reassert that the application is for identification of the object itself, not for identification of the color of the object or the color of any part of the object. In order to clarify this distinction, the phrase -- said electronic signal is a video signal for the production of images of said object-- is used in independent claims 2 and 4 of the application. Vincent does not state nor imply that the video signal is "for" the production of images of the object. The video signal of Vincent is not used "for" the production of an "image of said object" but rather for a color spectrum representing a part of the object.

Regarding independent claim 4, in the third paragraph on page 6 of the Office Action, the Examiner states that the electronic signal of Vincent "is a video signal of the production of images of said object" (emphasis added) and state that col. 1, lines 21-22 of Vincent "discloses the colorimeter used for assessing the color of the object produced on a video screen, implying a video signal of the production images of the object" (emphasis added).

The Examiner's excerpt from Col. 1, lines 21-22 of Vincent is a part of the sentence starting on line 21 and ending on line 27.

The sentence reads as follows:

"Colorimetry may be used to assess the colors produced on a video screen, in paints, at solid surfaces such as paper and plastics, as transmitted by or reflected from liquids, in dyed fabrics and textiles, in natural materials such as

leather and wool, and as produced by computer peripheral devices such as color monitors, color printers and color scanners."

Applicants submit that a reading of this sentence quoted from Vincent clarifies the distinction between the "electronic signal" of Vincent and the electronic signal of the invention of the applicants. As used by the applicants, the electronic signal is used to produce an image of a physical object, that imaging being produced, for example, on a display screen. Whereas, the electronic signal of Vincent, which the Examiner uses as part of the basis of the rejection of the applicant's claims, is used to analyze a characteristic, namely, color, of that image.

Put more succinctly, the applicant's electronic signal is used to produce (or, for the production of) an image of an object, and the electronic signal of Vincent is used to analyze that image. The applicant's electronic signal creates an image of an object. Vincent's electronic signal is created from light reflected from the image of that object.

Accordingly, applicants submit that neither independent claim 4 nor any claim that depends on independent claim 4, namely claims 2-3 and 5-21, is anticipated by Vincent or rendered obvious by Vincent in view of any patent cited by the Examiner.

Applicants wish to note in particular that, in view of the facts that the electronic signal in claim 4 is defined and limited to be a "video signal for the production of images of said object" and that the electronic signal of Vincent is neither so defined nor so limited or defined, claims 5-12, by being dependent on independent claim 4, incorporate such definition and limitation and are therefore not anticipated by Vincent.

In regard to claim 8, applicants wish to note that the object 14 of Vincent is defined as an underlying plane and is not a fault as the term fault is used in applicants invention.

Issue - whether claims 2 and 3 are obvious over US Patent No. 5,272,518 in
view of US Patent No. 5,323,085

In section 8 of the office action dated September 14, 2000 and mailed September 21, 2000, the Examiner rejected claims 2 and 3 under 35 USC 103 (a) as being unpatentable over Vincent (US Patent No. 5,272,518) in view of Genz (US Patent No. 5,323,085).

Applicants submit that since the electronic signal of the invention disclosed in the application is neither the same as nor obvious over the electronic signal of Vincent, as discussed previously, claims 2 and 3 are not obvious over US Patent No. 5,272,518 in view of US Patent No. 5,323,085.

Furthermore, applicants wish to point out that, in regard to night vision applications, the preferred range of wavelengths of light used in the invention is more than a simple matter of design choice. Pinson, in US Patent No. 4,947,044, teaches away from the use of wavelengths less than 1.35 microns for night vision. (See page 4, lines 1-6 of the application.) The applicants have taught that the use of near infrared for night vision has distinct properties and advantages not previously known or used in the art of night vision.

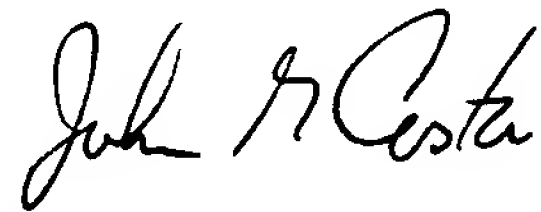
Issue - whether claims 13-21 are obvious over US Patent No. 5,272,518 in view
of US Patent No. 5,208,753

In section 9 of the office action dated September 14, 2000 and mailed September 21, 2000, the Examiner rejected claims 13-21 under 35 USC 103 (a) as being unpatentable over Vincent (US Patent No. 5,272,518) in view of Acuff (US Patent No. 5,208,753).

Applicants submit that since the electronic signal of the invention disclosed in the application is neither the same as nor obvious over the electronic signal of Vincent, as discussed previously, claims 2 and 3 are not obvious over US Patent No. 5,272,518 in view of US Patent No. 5,208,753.

Applicants respectfully submit that in view of the foregoing facts and arguments that the objections and rejections of the Examiner should be rescinded and request that those objections and rejections so be rescinded and that a patent on the application be allowed to issue.

Respectfully submitted,



Dated: April 13, 2001

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APPENDIX A

CLAIMS ON APPEAL

2. An imaging system comprising:

a non coherent light source for generating light, said non-coherent light source having a color temperature between 2000 Kelvins and 3500 Kelvins and a color rendition index (CRI) of more than 90,

a filter means for filtering said generated light, wherein said filter means permits the passage of light in the range of from 800 nanometers to 950 nanometers, an imaging means for the translation of visible and infrared light reflected from an object into an electronic signal, said electronic signal is a video signal for the production of images of said object.

3. The system of claim 2 further comprising transmission means for transmitting said electronic signal.

4. An imaging system comprising a light unit and imaging means, said light unit projects light in the range of from 780 nanometers to 1000 nanometers onto an object, said imaging means comprises a lens and an imaging device, said lens receives light reflected from said object and transmits said reflected light to said imaging device, said reflected light comprises infrared light, said imaging device receives said reflected light and translates said reflected light into an electronic signal, said electronic signal is a video signal for the production of images of said object.

5. The system of claim 4 further comprising transmission means for the transmission of said electronic signal.

6. The system of claim 4 wherein said infrared light is near infrared light.

7. The system of claim 4 wherein said imaging means further comprises at least one filter.

8. The system of claim 7 wherein the object is a fault and the reflected light received by said imaging device comprises light in the range of from 780 nanometers to 820 nanometers.

9. The system of claim 7 wherein the wavelength of light reflected from a target object is known and the light reflected from said target and received by said imaging means is selectively filtered to permit the passage of light in a desired range, said desired range being dependant on the known wavelength of light transmitted from said target.

10. The system of claim 4 wherein said light unit further comprises at least one filter.
11. The system of claim 10 wherein the wavelength of light reflected from a target object is known and the light projected onto said target by said light unit is selectively filtered to permit the passage of light in a desired range, said desired range being dependant on the known wavelength of light transmitted from said target.
12. The system of claim 11 further comprising a light source that emits light in said desired range.
13. The system of claim 4 wherein said imaging device has a sensitivity of at least 1.0 lux.
14. The system of claim 4 wherein said imaging device is capable of supporting at least 400 (H) X 400 (V) pixels.
15. The system of claim 4 wherein said lens has an aperture of at least F4.0.
16. The system of claim 4 wherein said imaging device has a sensitivity of at least 0.1 lux.
17. The system of claim 4 wherein said imaging device is capable of supporting at least 510 (H) X 492 (V) pixels.
18. The system of claim 4 wherein said lens has an aperture of at least F1.4.
19. The system of claim 4 wherein said imaging device is a solid state CCD image sensor.
20. The system of claim 4 further comprising a conventional system.
21. The system of claim 20 wherein said conventional system is a light intensifier.

APPENDIX B

REFORMATTED CLAIM

4. An imaging system comprising a light unit and imaging means,
 - said light unit projects light in the range of from 780 nanometers to 1000 nanometers onto an object,
 - said imaging means comprises a lens and an imaging device,
 - said lens receives light reflected from said object and transmits said reflected light to said imaging device,
 - said reflected light comprises infrared light,
 - said imaging device receives said reflected light and translates said reflected light into an electronic signal,
 - said electronic signal is a video signal for the production of images of said object.